AMENDMENTS TO THE SPECIFICATION

A. Please replace the second paragraph on page 4 (lines 4-12) with the following amended paragraph:

B1

A first embodiment of this invention is a method for maintaining TLB coherency in a computer system having a plurality of processors, each having an associated TLB for storing address translation data. The computer system accesses a virtual address in a TLB, locates a corresponding associated physical address, and sends a TLB message from the processor to the main communication network if: (a) [[(1)]] the corresponding physical address was not located in the TLB and was required to be inputted into the TLB; (b) [[(2)]] the corresponding physical address was removed from the TLB; or (c) [[(3)]] the corresponding physical address was moved to another part of the computer network system. The main communication network then sends the TLB message to the plurality of processors.

B. Please replace six consecutive paragraphs beginning at page 8, line 21, to page 10, line 17 with the following amended paragraphs:

B2

Now referring to Fig. 2, ~~this invention provides for~~ a method for maintaining [[of]] TLB coherency [[coherence]] in computer systems in accordance with one embodiment of the present invention is described. In computer systems with multiple processors each having its own associated TLB, each processor may process the data for

addresses and store the results in its respective TLB. Thus, it is possible that many different data values will exist among the multiple TLBs for a single address. The present invention therefore provides for a more efficient and less costly method to maintain TLB coherency within a computer system so that each address will have the same data value. A virtual address is accessed in a TLB to locate the corresponding physical address (30) [[30]]. A TLB message generator sends a TLB message to the communication network (40) if: (a) [[40 if: (1)]] the corresponding physical address was not located in the TLB and was required to be inputted into the TLB (32); (b) [[32; (2)]] the corresponding physical address was removed from the TLB (34); or (c) [[34; or (3)]] the corresponding physical address was moved to another part of the computer network system (36) [[36]]. If the physical address 22a matches the physical address 22b, 22c of one of the other processors 14b, 14c, then that address translation data 20b, 20c should be modified, removed, or marked as invalid. If the corresponding physical address is matched with the virtual address (38) [[38]], nothing further occurs.

If the corresponding physical address was inputted into the TLB, then the TLB message is a read access request to the other processors to input the address translation data into its associated TLB (42) [[42]]. However, if the corresponding physical address was modified, moved or invalidated, then the TLB message is a write access request to modify, remove or invalidate the corresponding physical address (44) [[44]].

The TLB message is sent from the main communication network to each processor in the computer system. Once the TLB message is received, the request is compared to the address translation data on the associated TLB to determine whether the request affects the address translation data stored in the associated TLB (48) [[48]]. Now

referring to Fig. 3, should the address translation data be affected, the processor will look to whether the TLB message is a read access TLB message (60) [[60]] or a write access TLB message (62) [[62]].

If the TLB message is a read access message (60) [60] and the physical address in the corresponding TLB cannot be located (66) [[66]], then the TLB message is ignored (74) [[74]]. However, if the physical address is located in the corresponding TLB (64) [[64]], then the new accessed data address in the TLB message is added to the corresponding TLB (72) [[72]].

If the TLB message is a write access message (62) [[62]] and the physical address in the corresponding TLB cannot be located (68) [[68]], then the TLB message is ignored (76) [[76]]. However, if the physical address is located in the corresponding TLB (70) [[70]], then the physical address is modified, invalidated or removed from the corresponding TLB (78) [[78]].

Referring to Fig. 1 and Fig. 2, ~~this invention further provides for~~ a system for maintaining [[of]] TLB coherency [[coherence]] in a computer system 10 in accordance with one embodiment of the present invention is described. The computer system 10 may have a plurality of processors 14a, 14b, 14c, each of which has its own associated TLB 16a, 16b, 16c and distributed among a plurality of independent paths 18a, 18b, 18c. A virtual address 24a is accessed in a TLB 16a to locate the corresponding physical address 22a. A TLB generator sends a TLB message to the main communication system (40) if: (a) [[40 if: (1)]] the corresponding physical address was not located in the TLB and was required to be inputted into the TLB (32); (b) [[32; (2)]] the corresponding

B2 physical address was removed from the TLB (43); or (c) [[34; or (3)]] the corresponding physical address was moved to another part of the computer network system (36) [[36]].

C. Please replace three consecutive paragraphs beginning at page 11, line 9 to page 11 line 20 with the following amended paragraphs:

Each processor 14b, 14c will access its associated TLB 16b, 16c for address translation data and compare it with the data address in the TLB message (48) [[48]]. Now referring to Fig. 3, should the address translation data be affected, the processor will look to whether the TLB message is a read access TLB message (60) [[60]] or a write access TLB message (62) [[62]].

B3

If the TLB message is a read access message (60) [[60]] and the physical address in the corresponding TLB cannot be located (66) [[66]], then the TLB message is ignored (74) [[74]]. However, if the physical address is located in the corresponding TLB (64) [[64]], then the new accessed data address in the TLB message is added to the corresponding TLB (72) [[72]].

If the TLB message is a write access message (62) [[62]] and the physical address in the corresponding TLB cannot be located 68, then the TLB message is ignored (76) [[76]]. However, if the physical address is located in the corresponding TLB (70) [[70]], then the physical address is modified, invalidated or removed from the corresponding TLB (78) [[78]].